

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Invertebrate Abstract**

**Element Code:** IIORT14010  
**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Eumorsea pinaleno*  
**COMMON NAME:** Pinaleno Monkey Grasshopper  
**SYNONYMS:** *Eumorsea balli*  
**FAMILY:** Eumastacidae

**AUTHOR, PLACE OF PUBLICATION:** Hebard, M. 1935. Studies in the Orthoptera of Arizona. Part I. New genera, species and geographic races. Transactions of the American Entomological Society 61:111-153 (as *E. balli* on pg. 121).

**TYPE LOCALITY:** Mount Graham, Pinaleno Mountains, Graham County, Arizona.

**TYPE SPECIMEN:** #5813, E.D. Ball. 21 August 1934.

**TAXONOMIC UNIQUENESS:**

**DESCRIPTION:** Noticeably elongate and wingless. All tarsi 3 segmented. Antennae shorter than front femora (plural of femur - third segment of leg from body). Body 8.0-24.0 mm (0.32-1.0 in) long with all limbs conspicuously elongate.

**AIDS TO IDENTIFICATION:**

**ILLUSTRATIONS:** B&W drawing (Brock and Prchal 2001)

**TOTAL RANGE:** *Eumorsea* is the most geographically restricted and the rarest of all eumastacid genera in North America. Members of genus known to occur only in a few mountain ranges of southeastern Arizona (Santa Ritas, Huachucas, and Pinalenos) and near Prescott, Arizona. That *E. pinaleno* probably occurs only in the Pinaleno Mountains is reinforced by its wingless nature, which would greatly impede dispersal to suitable habitat on nearby mountain ranges. *E. pinaleno* known only from four specimens, all of which were collected on or near Mount Graham in the Pinaleno Mountains, Graham County, Arizona.

**RANGE WITHIN ARIZONA:** See "**Total Range.**"

**SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** There is only one annual brood in North American eumastacids: immature stages have been taken as early as April but it is generally June or July before the species become adult (Brock and Prchal 2001).

**REPRODUCTION:** Unknown

**FOOD HABITS:** No information exists on feeding habits of *E. pinaleno*, though the species is undoubtedly herbivorous.

**HABITAT:** Occurs in same habitat as that occupied by *Tamasciurus hudsonicus grahamensis* (Mount Graham red squirrel) which is federally listed as endangered.

**ELEVATION:** Above 9,000 ft. (2,745 m). Elevation also recorded at 8,900 ft. (2715 m), based on a record in the Heritage Data Management System (HDMS) (AGFD, unpublished data accessed 2001).

**PLANT COMMUNITY:** High elevation coniferous forests.

**POPULATION TRENDS:** Unknown

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
[C2 USDI, FWS 1994]  
[C2 USDI, FWS 1991]  
[C2 USDI, FWS 1989]

**STATE STATUS:** None

**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1999)  
[Forest Service Sensitive USDA, FS Region 3 1988]

**MANAGEMENT FACTORS:** The lack of biological information on *E. pinaleno* hinders assessment of potential threats, which include logging, grazing, habitat disturbance, and development. Random events, such as climatic variability and disease also pose a threat to *E. pinaleno* due to the species apparently consisting of one of the localized population, possibly with limited numbers of individuals. (Brock and Prchal 2001).

### **PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:** *E. pinaleno* may merit a higher status [than C2] as it is quite likely that this species is rare, even within the very localized area (high elevations above 9,000 feet in the Pinaleno Mountains) that the species is known to occur. In view of this information, a concerted effort should be made to determine the abundance, ecology, and habitat needs of *E. pinaleno*, especially considering the ongoing and proposed development projects within the only known habitat of this species.

**LAND MANAGEMENT/OWNERSHIP:** USFS - Coronado National Forest.

## **SOURCES OF FURTHER INFORMATION**

### **LITERATURE CITATIONS:**

- Brock, J. and S. Prchal. 2001. Sensitive Insect Species of the Coronado National Forest: Pinaleno Monkey Grasshopper (*Eumorsea pinaleno*). A training project by Sonoran Arthropod Studies Institute, Tucson, AZ.
- Johnson, R. 1991. Unpublished status survey report done under contract to United States Fish and Wildlife Service, Arizona Ecological Services, Phoenix, Arizona.
- USDA, Forest Service Region 3. 1988. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Animal Notice of Review. Federal Register 54(4):567.
- USDI, Fish and Wildlife Service. 1991. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 56(225):58824.
- USDI, Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 59(219):59011.

USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species. Federal Register 61(40):7596-7613.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

Robert Johnson - Biologist under contract to United States Fish and Wildlife Service.

**ADDITIONAL INFORMATION:**

*E. pinaleno*, like other species in the Eumastacidae, appears to be rare. Such rarity is supported in that Mount Graham and the surrounding areas in the Pinaleno Mountains have been collected heavily by entomologists, with several people having searched unsuccessfully for *E. pinaleno*. Alternatively, it is possible that the biology of *E. pinaleno* is not understood and that the species only appears rare due to a lack of knowledge of how to collect it.

**Revised:** 1995-06-19 (DBI)  
1997-03-02 (SMS)  
2001-02 (SP)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 2001. *Eumorsea pinaleno*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 3 pp.